

Digital Trade and Services: *The Future of Trade in the 21st Century*

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The Digital Economy

- The U.S. currently leads the world in the digital economy. Ensuring the free flow of data and prohibiting data localization is critical if we are to sustain that lead as well as ensure that digital trade promotes global growth and innovation.
 - A 2016 McKinsey report found that for the first time, the global value of international data flows (\$2.8 trillion) exceeded the value of global merchandise trade.
 - The McKinsey study also found that the application of digital technologies and services, including cloud computing, will increase global GDP by \$2 trillion by 2020.
- Digitally-enabled trade depends on data flows.
 - The Commerce Department “Digital Trade in North America” Report (2018) noted that “potentially” ICT-enabled (PICTE) services, which are services that can be traded remotely using the Internet or some other digital network, accounted for 54% of all U.S. services exports, 48% of all services imports, and 64% of the trade in services surplus. In 2016, U.S. PICTE services trade consisted of \$403.5 billion in exports and \$244.0 billion in imports.
- The USITC has documented the profound positive impact the Internet is having on the U.S. economy. (USITC 2014)
 - It has improved U.S. productivity by 10.9%, which has raised U.S. real GDP by 4.5% (\$671 billion) and employment by 1.4%.
 - The Internet has also lowered trade costs, which also raises U.S. real GDP by .3% (\$39 billion) and employment by .3%.

Defining Digital Trade

- According to the OECD in its 2017 Digital Trade Policy report, there is:
 - No single recognized and accepted definition of digital trade.
 - A growing consensus that digital trade encompasses digitally enabled transactions in trade in goods and services which can be either digitally or physically delivered and which involve consumers, firms and governments.
- Data flows, or the movement of data/information across borders, underpin this digital trade environment.
 - Data flows are at the core of new and rapidly growing service supply models such as cloud computing, the Internet of Things (IoT) and additive manufacturing.
 - Data flows also underpin trade less directly. Digitalization of customs information and management supports the implementation of the Trade Facilitation Agreement and reduce trade costs (i.e., paperless trading, registration of information on-line and e-certification) by helping to speed up customs clearance at the border.
 - There are significant shortcomings in the available data related to the value of digital trade, and information on data flows is only beginning to be collected

A Day in the Life... Services Edition



You wake up, reach over to grab your phone and check your email from bed

You're running late, so you use your favorite ride sharing app to get to work quickly



You use your lunch break to go online shopping

Drop by the ATM after work to pick up cash for dinner



Make a phone call to your loved ones on your way home

A delivery is waiting for you at home



Relax on the couch and put on your favorite TV show

Post a picture to your favorite social media platform before bed



Services and Data Flows Improve Manufacturing Production Efficiency

- Digital services are fueling the Next Industrial Revolution (NIR), providing 25% of total input of manufacturing, empowering manufacturing efficiency improvements, and delivering big data analytics through smart technologies.
- Next generation networks – 5G, fiber networks – are expected to enable the NIR, creating launch pads for smart cities, education, and new means of producing manufactured goods. In this digital environment, companies have stressed that being ‘smart’ also means being connected.
- For firms to become integrated services providers and move into ‘smart’ manufacturing, the free flow of cross-border data as guaranteed in international trade agreements are necessary.

Services and Data Flows Improve Manufacturing Production Efficiency (continued)

- Digital and cloud services have been applied to bolster manufacturing outputs.
 - **Microsoft** has worked to develop predictive analytics, using the cloud and data to identify and address problems before they occur.
 - **MasterCard** works with **Samsung** to enable smart refrigerators to purchase groceries for delivery through FreshDirect. MasterCard has also worked with **General Motors (GM)** to incorporate a customer's digital wallet into OnStar, introducing convenience and efficiency at a new level.
 - **GM** has state-of-the-art "body shop" facilities, largely run by "robots" (with the use of the cloud and services engineers), digitalizing the process of tuning automobiles. **GM** has partnered with insurers providing real-time driver statistics for premium assessments.
 - **GM** works with **Boeing** to provide sensor detection mechanisms in engines which, in turn, provide predictive analytics and modeling on a virtual basis.
 - **Medtronic** relies on services to not only create and supply their devices, but also requires services for maintenance and other transactional support.

Digitally-Enabled Services Are Transforming Agriculture

Digitally-enabled services are transforming modern agriculture into “digital agriculture”. From computerized harvest tracking to data-driven cattle reproduction, farmers and ranchers are able to use technology and analytics to increase productivity, profitability, and competitiveness.

Microsoft’s “Connected Cow”: Using Windows Embedded software and Microsoft Azure cloud technology, farmers are able to track the health of their cows, monitor milk production, and sooth the calving process – all ensuring healthier cows and saving time. The technology is also used to monitor cows’ activity and rumination levels, which once would take hours a day for farmers to monitor stables and the health conditions of their cows.

Verizon’s Internet of Things (IoT) for Agribusiness: Verizon has created an entire sensor-tracking ecosystem through its IoT. Environmental monitoring services now support perishable food distribution globally, which is estimated at nearly \$250 billion. These help avoid spoilage, losses, and improve efficiencies across the board. For example, Verizon is developing solutions in the oyster-shipping channel for seafood farmers supplying fresh oysters to restaurants and supermarkets around the United States. Tracking the process from the moment the product leaves their hands to the time it arrives at their customer, oyster farmers will now be able to ensure their remains the proper temperature and product quality as intended. Verizon is also using its IoT-enabled technology to help vineyard growers in California’s wine country to optimize their farming processes – using intelligence to help planning, irrigation management, and sustainability programs – which has resulted in lowering operating costs, risks, and increasing profitability.

Chubb’s Agriculture Coverage: Assisting in the financing and protection of farmer and rancher’s assets, Chubb provides a wide range of products to assist farm and ranch agribusiness. Coverage is provided for commercial businesses that manufacture, process and distribute agricultural products to family operations that include personal use, boarding, and training, all the while also providing rain and hail protection from weather threats. Through the ability to protect their operations and assets, farmers and ranchers are able to hedge losses against the unforeseen or unexpected while increasing productivity and output.

Data Flows and Costs of Regulations

- Over the past decade, data flows have increased world GDP by 10.1%. (McKinsey 2016)
 - Cross-border data flows has grown by 45 times since 2005 and will grow by another 9 times by 2021.
- Data restrictions inhibit trade and undermine national competitiveness.
 - Examples include limits on cross-border data flows, forced data localization requirements, and overly prescriptive data privacy and protection requirements.
- A number of recent studies have estimated the costs of data flow and localization barriers.
 - USITC (2014) said that removing foreign barriers to U.S. digital trade would:
 - increase U.S. real GDP up to 0.3% (\$41 billion)
 - increase U.S. employment by 0.3%
 - European Centre for International Political Economy (ECIPE) (2014) study assessed proposed and enacted legislation regarding data localization, privacy and security in 7 countries (Brazil, China, EU, India, Indonesia, Korea, and Vietnam), and concluded it would:
 - Decrease GDP by average of 0.6%
 - Reduce domestic investment by 2.5%
 - Result in huge welfare losses (\$63 billion in China & \$193 billion in EU)

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 - OECD Study (forthcoming) examines emerging data flow restrictions and localization measures in the U.S., EU, Japan, and India, showing that such restrictions will result in:
 - Decreases across the board in exports, imports, overall GDP, production, and household income. Specific sectors also fared poorly, especially manufacturing..

Costs Associated with Data Localization

- Security -- data localization is detrimental to data security and cyber security efforts; localization laws result in firms expanding their networks, often into non-preferred, risky environments, creating additional vulnerabilities and challenges to securing the network. Localization can silo information, which limits visibility into risks and compromises monitoring and detection, all of which can put client information at risk.
- Financial and Risk Analysis – data localization impacts the conduct of proper financial analysis and risk analysis, including AML monitoring and sanctions screening; localization segregates information, often impedes the sharing of information within a company, which can compromise efforts to monitor and address risks on a global basis.
- Legal Complexity – data localization can worsen an already complex legal environment; localization laws on top of existing laws on the use and protection of consumer information, evolving privacy obligations and bank secrecy compliance creates legal conflicts and compounds the legal ambiguity firms must navigate in foreign markets, creating considerable risk.
- Market Access – data localization limits the provision of services to certain markets, particularly developing economies; between the complexity of delivering services and the cost of building and operating the infrastructure, many developing markets become unattractive or non-viable.
- Cost and Efficiencies – data localization often requires the construction and operation of a dedicated data-storage facility for a single market, usually at considerable expense; localization limits the ability of firms to create efficiencies through the establishment of shared service centers or hubs; localization also requires significant time and attention to manage the resulting legal and operational complexities.
- Operation Risk – data localization requires firms to comply with a patchwork of complicated, burdensome and sometimes inconsistent legal requirements, including local technology sourcing requirements, raising the risk of inquiries and investigations, claims, fines and requirements to modify business practices.

WTO and digital trade: GATT (1994)

- First liberalization of the digital infrastructure and consumer products through tariff cuts and provision of non-discriminatory treatment national treatment under the GATT.
- 1996 Information Technology Agreement (ITA) accelerated liberalization.
- Eliminated duties in most markets on wide array of information communication technology products—from computer hardware and software, semiconductors, mobile phones.
- Sparked major uptick in IT trade and creation of infrastructure.
- 2015 ITA was expanded to cover additional advanced IT products.
- GATT Article III (1994)
 - Establishes and codifies non-discrimination rules with respect to goods/IT products also prohibits requiring use of local content/products

WTO and digital trade: General Agreement on Trade in Services (GATS) (1995)

- Negotiated as part of the Uruguay Round of Multilateral Agreement negotiations, GATS created a system of rules and market access commitments that apply specifically to services. It created 4 modes of supply: cross-border, consumption abroad, commercial presence and temporary entry. It applies MFN, basic transparency requirements and a framework to negotiate rules regarding domestic regulation and certain other requirements to all services. But only imposes prohibition of market access restrictions and national treatment to those services sectors in which a WTO member decides to schedule commitments in sectors open to private competition—called a “positive list approach”
- Sector specific rules: Telecom and Financial Services and Recognition of Importance of Cross-Border Information Flows
 - Annex on Telecommunications 1994: regulatory principles on access and use of public telecom transport networks and services. In 1994 most telecom commitments were for value added services like voicemail, email.
 - “WTO members must ensure that other members may use telecom networks and services for movement of information within and across borders and for access to information in data bases stored in a members territory. Applies if member has made commitment on telecom
 - Understanding on Commitments in Financial Services 1994: optional package of commitments including rights to data transfer
 - Members prohibited from preventing transfers or of financial information or transfer of equipment necessary for conduct of ordinary course of business of financial services supplier. Can protect personal data as long as its not done to circumvent the agreement
 - Telecom negotiations continued into 1997 when agreement on Basic Telecom was reached covering wide range of telecom services
- One of the drawbacks of the telecom commitments negotiated in 1994 and 1997 is that like all GATS commitments they were largely based on an outdated UN services category classification scheme from 1991, not legally binding and doesn't really accommodate emerging services and technologies.
- GATS members don't want to renegotiate their existing commitments or change service descriptions.

WTO and digital trade: E-commerce

- WTO members agreed to a moratorium in 1998 that prohibits countries from “imposing customs duties on electronic transmissions”
 - Has been renewed at each WTO Ministerial; needs to be renewed in December but not without controversy.
 - Widely complied with and helped advance global digital trade.
- 2005 WTO Ministers extended the E-commerce work program
 - Has provided a discussion forum but has not been very active .
 - Will need to be renewed at MC-11.
- 2007 draft understanding on scope of “computer and related services”
 - During WTO Doha Round members wanted to try to clarify what services were included within key internet services such as computer and related services (CRS). As a result a draft Understanding on CRS was produced that indicates CRS covers a long list of services including such as search, hosted software and cloud computing. But also says that where a CRS service enables the provision of another service, such as online banking, the other services is not covered by the CRS commitment.

WTO and digital trade: Clarification of Digital Trade Rules through WTO Disputes

- US – Gambling (2005) Confirmed principle of technological neutrality
 - Commitment to allow cross-border supply of a service includes all means of delivery including online, unless otherwise specified
- China – Publications and Audiovisual Products (2009)
 - Panel interpreted “sound recording distribution services” to encompass electronic distribution of digital recordings
- China – Electronic Payment Services (2012) Concept that GATS commitment can cover a bundle of services essential to delivery
 - Commitment for “all payment and money transmission services” covers all services, including online services, essential to delivering such services

Digital Trade in FTAs

- U.S. FTAs beginning with Singapore and Chile
 - Services/investment rules, market access commitments, exceptions, NCMs apply to services delivered by any means including electronic transmission
 - FTA chapters on cross-border services include a requirement that parties not require a local presence to supply a cross-border service e.g. cloud-based services
 - FTAs included e-commerce chapter that provided for non-discriminatory treatment for digital products, permanent elimination of duties on e-commerce

Digital Trade in the Modernized NAFTA

- According to USTR, the recently negotiated US-Mexico Trade Agreement includes a Digital Trade chapter.
- The new Digital Trade chapter will:
 - Prohibit customs duties and other discriminatory measures from being applied to digital products distributed electronically (e-books, videos, music, software, games, etc.).
 - Ensure that data can be transferred cross-border, and that limits on where data can be stored and processed are minimized, thereby enhancing and protecting the global digital ecosystem.
 - Ensure that suppliers are not restricted in their use of electronic authentication or electronic signatures, thereby facilitating digital transactions.
 - Guarantee that enforceable consumer protections, including for privacy and unsolicited communications, apply to the digital marketplace.
 - Limit governments' ability to require disclosure of proprietary computer source code and algorithms, to better protect the competitiveness of digital suppliers.
 - Promote collaboration in tackling cybersecurity challenges while seeking to promote industry best practices to keep networks and services secure.
 - Promote open access to government-generated public data, to enhance innovative use in commercial applications and services.
 - Limit the civil liability of Internet platforms for third-party content that such platforms host or process, outside of the realm intellectual property enforcement, thereby enhancing the economic viability of these engines of growth that depend on user interaction and user content.

Digital Trade in the TPP

- The first trade agreement to include binding provisions on cross-border data flows and to prohibit data localization was TPP E-Commerce Chapter
 - Chapter 14 – E-commerce builds on previous e-commerce chapters in U.S. FTAs but adds:
 - Each Party must allow cross-border data transfers for conduct of business of a covered person
 - May not require a covered person to use or locate computing facilities in its territory as condition for doing business there
 - Cooperation on cybersecurity
 - Have online consumer protections
 - Have a legal framework for privacy
 - Create a legal framework for e-commerce including allowing use of e-signatures
- TPP Parties are encouraged to:
 - Allow paperless trading; allow commercial negotiation for international internet connection; cooperate on cybersecurity and to help SME access
- No Party may require transfer or access to source code for mass-market software as condition for its sale/use (with some exceptions)
- Encourage faster & more transparent customs
- (The U.S. withdrew out of the agreement last year and it is unclear whether the U.S. will rejoin.)

Other FTA Digital Trade Provisions

- Financial Services Chapter

- Based on GATS Financial Services Understanding allows for transfer and processing of information in the course of ordinary business.
- Does not contain any prohibition against data localization requirements.

- Telecom Chapter

- Parties must ensure major telecom suppliers can provide interconnection, leased circuit services, co-location, and access to facilities under reasonable conditions , on a timely basis and at cost-oriented rates.

- Investment Chapter

- Prohibits forced technology transfer or mandatory use of local technology.

Thank You

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